

$K_0^*(1950)$

$$I(J^P) = \frac{1}{2}(0^+)$$

OMITTED FROM SUMMARY TABLE

Seen in partial-wave analysis of the $K^- \pi^+$ system. Needs confirmation.

$K_0^*(1950)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
1945±10±20	¹ ASTON 88 LASS 0			$11 K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1917±12	² ZHOU 06 RVUE			$K^- p \rightarrow K^- \pi^+ n$
1820±40	³ ANISOVICH 97C RVUE			$11 K^- p \rightarrow K^- \pi^+ n$

¹We take the central value of the two solutions and the larger error given.
²S-matrix pole. Using ASTON 88 and assuming $K_0^*(800)$, $K_0^*(1430)$.
³T-matrix pole. Reanalysis of ASTON 88 data.

NODE=M134

NODE=M134M

NODE=M134M

NODE=M134M;LINKAGE=A

NODE=M134M;LINKAGE=ZU

NODE=M134M;LINKAGE=A1

NODE=M134W

NODE=M134W

NODE=M134W;LINKAGE=A

NODE=M134W;LINKAGE=ZU

NODE=M134W;LINKAGE=A1

NODE=M134215;NODE=M134

DESIG=1

NODE=M134220

NODE=M134R1

NODE=M134R1

NODE=M134R1;LINKAGE=A

NODE=M134R1;LINKAGE=ZU

NODE=M134

REFID=51198

REFID=45815

REFID=40262

$K_0^*(1950)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
201± 34±79	⁴ ASTON 88 LASS 0			$11 K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
145± 38	⁵ ZHOU 06 RVUE			$K^- p \rightarrow K^- \pi^+ n$
250±100	⁶ ANISOVICH 97C RVUE			$11 K^- p \rightarrow K^- \pi^+ n$

⁴We take the central value of the two solutions and the larger error given.
⁵S-matrix pole. Using ASTON 88 and assuming $K_0^*(800)$, $K_0^*(1430)$.
⁶T-matrix pole. Reanalysis of ASTON 88 data.

NODE=M134W

NODE=M134W

NODE=M134W;LINKAGE=A

NODE=M134W;LINKAGE=ZU

NODE=M134W;LINKAGE=A1

$K_0^*(1950)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 K\pi$	(52±14) %

DESIG=1

NODE=M134220

NODE=M134R1

NODE=M134R1

NODE=M134R1;LINKAGE=A

NODE=M134R1;LINKAGE=ZU

$K_0^*(1950)$ BRANCHING RATIOS

$\Gamma(K\pi)/\Gamma_{\text{total}}$		Γ_1/Γ
0.52±0.08±0.12	⁷ ASTON 88 LASS 0	$11 K^- p \rightarrow K^- \pi^+ n$
• • • We do not use the following data for averages, fits, limits, etc. • • •		
~0.60	⁸ ZHOU 06 RVUE	$K^- p \rightarrow K^- \pi^+ n$
⁷ We take the central value of the two solutions and the larger error given. ⁸ S-matrix pole. Using ASTON 88 and assuming $K_0^*(800)$, $K_0^*(1430)$.		

DESIG=1

NODE=M134220

NODE=M134R1

NODE=M134R1

NODE=M134R1;LINKAGE=A

NODE=M134R1;LINKAGE=ZU

$K_0^*(1950)$ REFERENCES

ZHOU 06 NP A775 212	Z.Y. Zhou, H.Q. Zheng
ANISOVICH 97C PL B413 137	A.V. Anisovich, A.V. Sarantsev
ASTON 88 NP B296 493	D. Aston <i>et al.</i> (SLAC, NAGO, CINC, INUS)

NODE=M134

REFID=51198

REFID=45815

REFID=40262